UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/032,974	10/22/2001	William A. Orfitelli	83243THC	8711

7590 01/12/2005

Thomas H. Close
Patent Legal Staff
Eastman Kodak Company
343 State Street
Rochester, NY 14650-2201

EXAMINER	
YENKE, BRIAN P	

ART UNIT	PAPER NUMBER
2614	

DATE MAILED: 01/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/032,974	ORFITELLI ET AL.	
	Examiner	Art Unit	
	BRIAN P. YENKE	2614	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *Amendment (07 Sep 04)*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-7 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-7 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. Applicant's arguments filed 07 September 2004 have been fully considered but they are not persuasive.

Applicant's Arguments

a) Regarding claim 1, the applicant states that the examiner confuses color modulation as taught be Sheppard with the temporal modulation frequency as claimed by the applicant.

b) Regarding claim 5, the applicant states that there is not suggestion or motivation for Sheppard to replace the CCD therein with the grid of photosensors found in Foley.

Examiner's Response

a) The examiner disagrees. Initially, the examiner would like to point out that Sheppard discloses the use of a LCLV projector which modulates the white light at a predetermine rate/intensity based upon the control electronics (video amp 58) and CRT 72 (Fig 1). It is also noted that the applicant also utilizes drive electronics (22) and a light modulator (16)(which as disclosed by applicant is a reflective liquid crystal light modulator) to modulate the light. Thus the examiner would like the applicant to explain how two similar devices which perform the same function of modulating the light via a liquid crystal light valve/modulator do so differently, since both modulate with a predetermined rate and intensity.

b) The examiner disagrees since Sheppard specifically discloses that light sensor subystem 12 may be any other device which is capable of sensing the light intensity of the projected image (col 3, line 3-15).

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-7 rejected under 35 U.S.C. 103(a) as being unpatentable over Sheppard et al., US 6,061,102 in view of Foley et al., US 5,510,851.

In considering claims 1-4,

*a) the claimed modulating a pixel...*is met by projector lens assembly 16 (Fig 1) which modulates a pixel at a predetermined color (i.e. red, green and blue), where the predetermined color is associated with a predetermined frequency and intensity.

b) the claimed sensing the display is met by CCD camera 22 of light sensor subsystem 12 (Fig 1) which senses the display of screen 20.

*c) the claimed demodulating the sensed signal...*is met by camera circuitry 25 of light sensor subsystem 12 (Fig 1) which receives the sensed brightness signal from CCD camera 22 and generates an image brightness signal in response to the sensed brightness signal

*d) the claimed employing the sensed intensity...*is met by CPU 44 which is coupled to light sensor subsystem 12, where the CPU generates light intensity maps based on the image brightness signal, where the CPU also received the digitized image brightness signal (via sensor subsystem 12) and compares the

digitized image brightness signal to the light intensity maps stored in memory, and automatically adjusts the video amplifiers to compensate for variations in the luminance projected image by producing correction maps that are stored in memory.

However, Sheppard does not explicitly disclose a "photosensor" (b) nor does Sheppard disclose "correcting pixel by pixel" variations.

Sheppard does disclose the use of a light sensor subsystem 12 for sensing/demodulating the displayed signal of screen 20. Sheppard also discloses that the light sensor subsystem 12 may be any other device, which is capable of sensing the light intensity of the projected image 18 and processing the light intensity data in a manner as done in the system 10.

Although, the use of photosensors which correct pixels on a pixel-by-pixel basis are conventional in the art, the examiner nonetheless incorporates Foley et al., US 5,510,851 which discloses the use of a photosensor 150 which senses the intensity of the color component of each pixel to insure color purity in the display monitor (Fig 1).

Thus the question is whether it would have been obvious to replace Sheppards CCD camera which senses the light intensity of the screen by using a photosensor in order to correct on a pixel-by-pixel basis. The examiner's position is since the use of photosensor's are conventional which are used to correct for displays on a pixel-by-pixel basis, the replacement of a CCD camera with that of a photosensor, produces no unexpected results, since the results are widely known.

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Sheppard, which discloses a shading/color correction system which improves the shading of the displayed image, by using a photosensor in order to correct the monitor on a pixel-by-pixel based as done by Foley, in order to correct each pixel of the display, in order to provide the viewer a color pure non-pixel defective display.

In considering claims 5-7,

a) the claimed a light source is met projection system 16 which includes a CRT 72 which amplifies the video signal (Fig 1), where projection system 16 projects the light onto screen 20

b) the claimed a light modulator is met by projection system 16 which includes projector lens 78, prism 82, light valve 76 and lens 74.

c) the claimed drive electronics... is met where the video received from external source 52 is applied to a video mux 50, a multiplication operation (DAC) and adding operation (ORIG) where the video signal is then amplified in projection system 16 via amplifier 58.

d) the claimed correction electronics is met by projector circuitry 14 (Fig 1)

*e) the claimed a memory...*is met by gain memory 54 and offset memory 56.

f) the claimed means for modulating is met by projector lens assembly 16 (Fig 1) which modulates a pixel at a predetermined color (i.e. red, green and blue), where the predetermined color is associated with a predetermined frequency and intensity.

b) the claimed sensing the display is met by CCD camera 22 of light sensor subsystem 12 (Fig 1) which senses the display of screen 20.

g) the claimed sensing the display... is met by CCD camera 22 of light sensor subsystem 12 (Fig 1) which senses the display of screen 20

h) the claimed a synchronous demodulator... is met by camera circuitry 25 of light sensor subsystem 12 (Fig 1) which receives the sensed brightness signal from CCD camera 22 and generates an image brightness signal in response to the sensed brightness signal

i) the claimed means employing the sensed intensity... is met by CPU 44 which is coupled to light sensor subsystem 12, where the CPU generates light intensity maps based on the image brightness signal, where the CPU also received the digitized image brightness signal (via sensor subsystem 12) and compares the digitized image brightness signal to the light intensity maps stored in memory, and automatically adjusts the video amplifiers to compensate for variations in the luminance projected image by producing correction maps that are stored in memory.

Regarding the "photosensor" (g) and "pixel by pixel basis" (d) limitations please refer to claim 1 above.

Conclusion

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure—please refer to newly cited references on attached form PTO-892.

4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian Yenke whose telephone number is (703) 305-9871. The examiner work schedule is Monday-Thursday, 0730-1830 hrs.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's Supervisor, John W. Miller, can be reached at (703)305-4795.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:

(703) 872-9314

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist). Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is

(703)305-HELP.

General information about patents, trademarks, products and services offered by the United States Patent and Trademark Office (USPTO), and other related information is available by contacting the USPTO's General Information Services Division at:

800-PTO-9199 or 703-308-HELP

(FAX) 703-305-7786

(TDD) 703-305-7785

An automated message system is available 7 days a week, 24 hours a day providing informational responses to frequently asked questions and the ability to order certain documents. Customer service representatives are available to answer questions, send materials or connect customers with other offices of the USPTO from 8:30 a.m. - 8:00p.m. EST/EDT, Monday-Friday excluding federal holidays.

For other technical patent information needs, the Patent Assistance Center can be reached through customer service representatives at the above numbers, Monday through Friday (except federal holidays) from 8:30 a.m. to 5:00 p.m. EST/EDT.

General information brochures can also be obtained in person from the Patent Search Room located in Crystal Plaza 3, Room 1A03, 2021 South Clark Place, Arlington, VA 22202.

The Patent Electronic Business Center (EBC) allows USPTO customers to retrieve data, check the status of pending actions, and submit information and applications. The tools currently available in the Patent EBC are Patent Application Information Retrieval (PAIR) and the Electronic Filing System (EFS).

PAIR (http://pair.uspto.gov) provides customers direct secure access to their own patent application status information, as well as to general patent information publicly available. EFS allows customers to electronically file patent application documents securely via the Internet. EFS is a system for submitting new utility patent applications and pre-grant publication submissions in electronic publication-ready form. EFS includes software to help customers prepare submissions in extensible Markup Language (XML) format and to assemble the various parts of the application as an electronic submission package. EFS

also allows the submission of Computer Readable Format (CRF) sequence listings for pending biotechnology patent applications, which were filed in paper form.

BRIAN P. YENKE
Primary Examiner
Art Unit 2614

B.P.Y
06 January 2005